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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,553	11/05/2003	Ayako Uji	01272.020640.	1053

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EXAMINER

MRUK, GEOFFREY S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,553

Applicant(s)

UJI ET AL.

Examiner

Geoffrey Mruk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bohorquez et al. (US 5,736,995).

With respect to claim 1, Bohorquez discloses an inkjet recording apparatus for performing recording by ejecting ink onto a recording medium using a plurality of recording heads (Fig. 1, printhead; Column 1, lines 55-57) which apply heat to the ink with heating means to generate bubbles in the ink and to eject the ink with the pressure of the bubbles (Column 1, lines 29-67; Column 2, lines 1-14), the apparatus comprising:

- a common plate (Fig. 3, element 40) on which a plurality of recording element substrates are arranged, each of said plurality of recording element substrates being provided with a plurality of the heating means and said plurality of recording element substrates being provided for respective recording heads of the plurality of recording heads (Column 1, lines 66-67; Column 2, lines 1-14, i.e. silicon substrate and structures built on the substrate);
- recording mode setting means (Column 3, lines 61- 67, i.e. firing pulses) for setting a recording head that is to be used for recording and a recording head

that is not to be used for recording, from among the plurality of recording heads (Column 3, lines 61-67, i.e. non-firing pulses); and

- control means (Fig. 1, element 30) for heating the recording head that is set by said recording mode setting means to be not used for recording to adjust the temperature of the recording head to be used for recording (Column 6, lines 9-35) utilizing heat conduction (Column 4, line 46).

With respect to claim 2, Bohorquez discloses said control means (Fig. 1, element 30) causes the heating means for the recording head (Fig. 1, printhead) that is not to be used for recording to generate heat such that the ink is not ejected from the recording head (Column 4, lines 1-24).

With respect to claim 3, Bohorquez discloses said control means (Fig. 1, element 30) causes heating of the recording head (Fig. 1, printhead) that is not to be used for recording while the recording head to be used for recording performs recording (Column 6, lines 9-35).

With respect to claim 5, Bohorquez discloses an inkjet recording apparatus for performing recording by ejecting ink onto a recording medium using a plurality of recording heads (Fig. 1, printhead; Column 1, lines 55-57) which apply heat to the ink with heating means to generate bubbles in the ink and to eject the ink with the pressure of the bubbles (Column 1, lines 29-67; Column 2, lines 1-14), the apparatus comprising:

- a common plate (Fig. 3, element 40) on which a plurality of recording element substrates are arranged, each of said plurality of recording element substrates being provided with a plurality of the heating means, and said plurality of

recording element substrates being provided for respective recording heads of the plurality of recording heads (Column 1, lines 66-67; Column 2, lines 1-14, i.e. silicon substrate and structures built on the substrate);

- discrimination means (Fig. 1, element 28) for discriminating between a recording head that is to be used and a recording head that is not to be used for the next recording to be performed (Column 4, lines 51-59); and
- control means (Fig. 1, element 30) for heating the recording head discriminated by said discrimination means to be not before the recording head discriminated to be used for recording starts a recording operation to adjust the temperature (Column 6, lines 9-35) of the recording head to be used utilizing heat conduction (Column 4, line 46).

With respect to claim 6, Bohorquez discloses a heater for heating provided independently of the heating means is used as said control means (Column 3, lines 6-10).

Response to Arguments

Applicant's arguments filed 11 October 2005 have been fully considered but they are not persuasive.

The Applicant's argument that "Bohorquez et al. does not disclose or suggest setting a recording head that is to be used for recording and a recording head that is not to be used for recording, or discriminating between a recording head that is to be used and a recording head that is not to be used for a next recording" and Figure 3 "does not

depict a common plate on which a plurality of recording element substrates are arranged” are not persuasive. However, as cited in the final action rejection Bohorquez states “The present invention reduces the range of drop volume variation by heating the printhead substrate to a reference temperature before printing begins and controlling that temperature during printing by using non-firing pulses synchronized with the firing pulses used to eject printing drops” (Column 3, lines 62-67) and “The typical thermal inkjet printhead (i.e., the silicon substrate, structures built on the substrate, and connections to the substrate) uses liquid ink (i.e., colorants dissolved or dispersed in a solvent). It has an array of precisely formed nozzles attached to a printhead substrate that incorporates an array of firing chambers, which receive liquid ink from the ink reservoir. Each chamber has a thin-film resistor, known as a thermal inkjet firing chamber resistor, located opposite the nozzle so ink can collect between it and the nozzle” (Column 1, lines 66-67; Column 2, lines 1-7). Therefore, Bohorquez meets the claimed limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is 571 272-2810. The examiner can normally be reached on 7am - 330pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GSM
1/10/2006

GM


1/12/06
MANISH S. SHAH
PRIMARY EXAMINER